

Claims:

- SUB 84
1. Process for the reduction of harmful gases in gas mixtures from pyrotechnic reactions, characterized in that at least one additive from the group consisting of metallocenes, metallocene derivatives, urea, urea derivatives, sulphur and/or sulphur compounds is vaporized during the pyrotechnic reaction by the heat generated in the pyrotechnic reaction and the harmful gases are converted into non-toxic compounds in a homogeneous gas phase reaction.
 2. Process for the reduction of harmful gases in gas mixtures from pyrotechnic reactions according to claim 1, characterized in that the additive chosen has a melting point $> 105^{\circ}\text{C}$ and vaporizes below 400°C .
 3. Process for the reduction of harmful gases in gas mixtures from pyrotechnic reactions according to claim 1, or 2, characterized in that ferrocene, 1,1'-diacetylferrocene, titanocene pentasulphide, urea, N-formylurea, N,N'-dimethylurea, N,N-dimethylurea and/or sulphur, preferably ferrocene, is employed as the additive.
 4. Agent for pyrotechnic gas generation, characterized in that, in addition to the gas-generating substance, it comprises an additive from the group consisting of metallocenes, metallocene derivatives, urea, urea derivatives, sulphur and/or sulphur compounds which vaporizes due to the heat generated in the pyrotechnic reaction.
 5. Agent for pyrotechnic gas generation according to

claim 4, characterized in that the additive chosen has a melting point $> 105^{\circ}\text{C}$ and vaporizes below 400°C .

- 5 6. Agent for pyrotechnic gas generation according to
claim 4 or 5, characterized in that ferrocene,
1,1'-diacetylferrocene, titanocene pentasulphide,
urea, N-formylurea, N,N'-dimethylurea, N,N-
dimethylurea and/or sulphur, preferably ferrocene,
10 is employed as the additive.
7. Agent for pyrotechnic gas generation according to
~~one of claims 4 to 6~~ ^{claim 4}, characterized in that at
least one component of the gas-generating substance
15 is coated with the additive.
8. Device for pyrotechnic gas generation,
characterized in that at least one additive from
the group consisting of metallocenes, metallocene
derivatives, urea, urea derivatives, sulphur and/or
20 sulphur compounds is introduced into the flow path
of the working gas.
9. Device for pyrotechnic gas generation,
characterized in that the additive chosen has a
melting point $> 105^{\circ}\text{C}$ and vaporizes below 400°C .
^{according to claim 8}
10. Device for pyrotechnic gas generation,
characterized in that ferrocene, 1,1'-
25 diacetylferrocene, titanocene pentasulphide, urea,
N-formylurea, N,N'-dimethylurea, N,N-dimethylurea
and/or sulphur, preferably ferrocene, is employed
30 as the additive.
^{according to claim 8}